

**Proposal**

**Semester Project Of Data Structures**

**BUS TICKET RESERVATION MANAGEMENT SYSTEM**

**Members:**

FA21-BSE-080

Arfah Ali

FA21-BSE-015

Hanzla Nouman

FA21-BSE-019

Laiba Binta Tahir

**SECTION:** 4A

**DEPARTMENT:** COMPUTER SCIENCE (SE)

**SUBMITTED TO:** Mam Sana Malik

**DATE:** May 30, 2023

**Introduction:**

The purpose of this proposal is to present a project idea for the semester project in the course of Data Structures and Algorithms (DSA). The proposed project involves the development of an online bus ticket reservation and management system. This system will provide users with the ability to search, book, and manage bus tickets conveniently through an online platform. It will also include various functions to enhance the user experience and streamline the ticket reservation process.

**Objective:**

The main objective of this project is to d**esign and implement** an efficient online bus ticket reservation and management system using **Data Structure Concepts**. The system will allow users to search for bus routes, check seat availability, book tickets, manage bookings, and provide various other functionalities to improve user satisfaction and convenience.

**Functions:**

1. **display\_in\_detail:** This function will display detailed information about the tickets, including the passenger name, seat number, departure time, and other relevant details.

2. **searchbyname:** This function will enable users to search for tickets by passenger name. It will display a list of tickets matching the entered name.

3. **searchbyseat:** This function will allow users to search for tickets by seat number. It will display the ticket details associated with the entered seat number.

4. **sortbyname:** This function will sort the tickets in ascending order based on the passenger name.

5. **sortbyage:** This function will sort the tickets in ascending order based on the passenger's age.

6. **booking:** This function will facilitate the booking of bus tickets. Users will be able to select a bus, choose their preferred seats, and enter their personal information to complete the booking process.

7. **view\_bus\_list:** This function will display a list of available buses along with their respective departure times and destinations.

8. **login\_sys:** This function will provide a login system for users, ensuring secure access to their booking details and allowing them to manage their reservations.

9. **cancel\_seat:** This function will allow users to cancel their booked seats. The corresponding ticket will be removed from the system, and the seat will become available for others to book.

10. **edit\_data:** This function will enable users to edit their personal information associated with their booked tickets, such as name, age, or contact details.

11. **display:** This function will display a summary of the booked tickets, including the passenger name, seat number, and departure time.

12. **delete\_data:** This function allows users to delete a specific ticket from the system, freeing up the seat for other bookings.

13. **timetable:** This function will provide users with a timetable of all available buses, including their departure times and destinations.

14. **feedback\_from\_pass:** This function will collect feedback from passengers regarding their experience with the bus ticket reservation system. Users will be able to provide their comments and suggestions.

15. **rent\_per\_seat:** This function will enable users to rent individual seats on a bus for a specific trip. It will display the available seats and their respective prices.

**Conclusion:**

The proposed online bus ticket reservation and management system will provide users with a convenient platform to search, book, and manage bus tickets. The various functions incorporated in the system will enhance user experience, improve efficiency, and ensure smooth ticket reservation operations. This project will serve as an excellent opportunity to apply the knowledge and skills acquired in the